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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/783,514      | 07/12/2004  | Bernard D. Gist      | DN 03-021           | 7596             |

7590 06/21/2005  
Marvin J. Powell  
Minerals Technologies Inc.  
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Bethlehem, PA 18017

EXAMINER

SAMPLE, DAVID R

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1755

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/783,514

Applicant(s)

GIST ET AL.

Examiner

David Sample

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-17, 20-28 and 31-34 is/are rejected.
- 7) ☒ Claim(s) 9, 18, 19, 29 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20040220.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 10-20, 24, and 31-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite the inclusion of calcia in the refractory. ‘Calcia’ is known in the art to mean CaO. See page 45 of Dictionary of Ceramic Science and Engineering. However, the claims include calcium hydroxide to be within the meaning of calcia, which has not traditionally been included within the meaning of calcia. Because calcium hydroxide is included within the meaning of calcia, it is not clear what other calcium containing compounds are considered to be within the meaning of calcia. In view of this, any calcium and oxygen-containing compound is considered to be within the meaning of the term “calcia.”

Claim 10 refers to calcium oxide whereas claim 4 (from which claim 10 depends) specifically states that the calcia is calcium hydroxide. Is the calcium hydroxide added in addition to the CaO, or in the alternative to the CaO? It appears that “calcium hydroxide” should be changed to “calcium oxide.”

In claims 14-16, “the calcium hydroxide” lacks antecedent basis.

Claims 11-13, 17-19, 24, and 31-34 are rejected for failing to correct the deficiencies of claims from which they depend.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 8, 11-13 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagle et al. (US 4,383,045).

Nagle et al. discloses a gunning composition comprising magnesia, sulfamic acid and calcium nitrate. See the abstract. Moreover, the reference discloses a magnesia raw material which contains 0.9 wt% CaO. See col. 4, lines 8-13. Thus, the reference discloses the use of ‘calcia’ in the ceramic composition in two separate ways.

The examiner notes that the reference discloses the use of calcium carbonate, and the claims recite the inclusion of calcia in the refractory. In view of the discussion above with respect to the definiteness of ‘calcia,’ calcium carbonate is presumed to be within the meaning of calcia.

The recitations of claims 11-13 can be found in the reference at col. 6, lines 31-33.

Claims 1-3, 5-7 and 10-16 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 62-148377 (‘377).

Art Unit: 1755

JP '377 discloses spray refractory composition (i.e., gunning composition) comprising refractory aggregate, sulfamic acid and calcium hydroxide. See Table 1, page 440.

The examiner spoke with a Japanese translator and had the compositional portion of Table 1 translated. The first block of components in the first column of the table listed in order are: magnesia, dolomite, chrome ore, (untranslated), dolomite broken brick, and magnesium carbonate broken brick. The second block of components recites the components in order: clay, bentonite,  $\text{Ca}(\text{OH})_2$ , and methyl cellulose. The third block of components lists the components in order: sulfamic acid, aluminum sulfate, and boric acid. A complete translation will be forthcoming.

The recitations of claims 5-7 and 11-16 can be found in the reference in the translated abstract, page 439, left column, last full paragraph and table 1.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20-22, 24-27 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62-148377 ('377) as applied to claims 1-3, 5-7 and 10-16 above and further in view of the knowledge of one of ordinary skill in the art.

Art Unit: 1755

As noted above, JP '377 discloses a composition that anticipates claims 1-3, 5-7 and 10-16. The reference differs from claims 20-22, 24-27 and 31-34 by failing to disclose the inclusion of a wetting agent to the composition.

However, it would have been obvious to one of ordinary skill in the art to have used an additional component for its intended purpose. In other words, it would have been obvious use a wetting agent to cause wetting.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added a wetting agent to the composition of JP '377 because the resultant composition will be more easily wetted by the water used in spraying.

Claims 20, 21, 23, 24, 28, and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagle et al. (US 4,383,045) as applied to claims 1, 2, 4, 8, 11-13 and 17 above and further in view of the knowledge of one of ordinary skill in the art.

As noted above, Nagle et al. discloses a composition that anticipates claims 1, 2, 4, 8, 11-13 and 17. The reference differs from claims 20-22, 24-27 and 31-34 by failing to disclose the inclusion of a wetting agent to the composition.

However, it would have been obvious to one of ordinary skill in the art to have used an additional component for its intended purpose. In other words, it would have been obvious use a wetting agent to cause wetting.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added a wetting agent to the composition of Nagle et al. because the resultant composition will be more easily wetted by the water used in spraying.

Art Unit: 1755

***Allowable Subject Matter***

Claims 9, 18, 19, 29 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art fails to disclose or suggest a refractory composition comprising magnesia, sulfamic acid and the claimed amount of CaO.


***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Sample whose telephone number is (571)272-1376. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (572)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
David Sample  
Primary Examiner  
Art Unit 1755